

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI – 590018



A Mini Project Report on

“Employee Management System”

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI – 590018



Department Of Computer Science and Engineering

Certificate

Certified that the mini-project entitled “**Employee Management System**” is a bonafide work carried out by

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in partial fulfillment of the requirements of **V semester of Bachelor of Computer Science and Engineering of the Visvesvaraya Technology University, Belagavi** during the academic year 2022-23. It is certified that all the corrections/suggestions indicated have been incorporated in the report. The project has been approved as it satisfies the academic requirements in respect to project work prescribed by the said degree.

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Date of examination conducted: _____

Name of examiners:

Signature:

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Mr. PRAMOD PATIL

Mr. PRANAV SAVEKAR

ABSTRACT

Employee management system is an application based system, having two applications developed, one for employers to manage employee details and another for employees to mark their attendance. Every organization whether government or private uses an information system[2.] to store data of their staff. However, in India it is found that many small scale industries use pen and paper to keep a record. However, there are many advanced technology systems available that can do this work but they all are costly for these low level industries. This paper discusses making a system for solving problems for them at a cheaper cost. This system will mark attendance of each employee and calculate the salary of them at the end of month. It also calculates overtime and total working hours of each employee. As in small scale each company has their own holidays preference and variable week off for employees, so all this power is given to the employer to manage holidays and week days of each employee separately. It saves lots of time and has no error in pay calculation hence preventing clashes between HR Team and employees. So that both employer and employee can focus on their work to develop their company.

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Chapter-1

Introduction

This chapter gives a brief theoretical preview upon the database information systems and goes through the essence of the problem that should be resolved.

1.1 Background

Most of the contemporary Information systems are based on the Database technology as a collection of logically related data, and DBMS as a software system allowing the users to define, create, maintain and control access to the database.

The process of constructing such kind of systems is not so simple. It involves a mutual development of application program and database. The application program is actually the bridge between the users and the database, where the data is stored. Thus, the well-developed application program and database are very important for the reliability, flexibility and functionality of the system. The so defined systems differentiate to each other and their development comprises a great variety of tasks to be resolved and implemented.

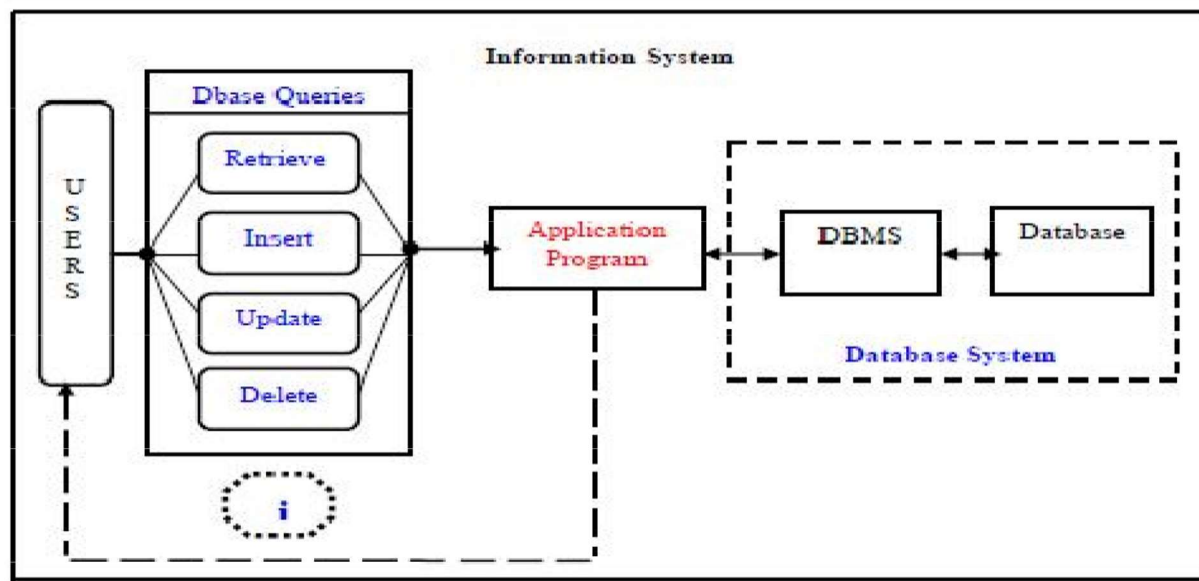


Figure 1.1 Database information systems - principle scheme

The basic idea can be depicted in Figure 1.1 below:

1.2 Problem Statement

This report's documentation goes through the whole process of both application program and database development. It also comprises the development tools have been utilized for these purposes.

1.3 Problem Discussion

This system should consist of an application program, on one hand, and a database (repository of data) on the other. The program should perform the basic operations upon the database as retrieving, inserting, updating and deleting data. Any additional functionality is a goal of a further module development.

It is a kind of strategy to start the development from designing and constructing the database, as this structure will determine the further structure of the application program. The logical database model (tables, their content and the relationships between them) should respond to the given task and cover the basic requirements.

1.4 Programming Environments:

Database Environment: Access is a typical environment for constructing relational databases. The database is the skeleton and the underlying framework of most of the contemporary Information Systems. The evolution of the Database systems could be divided into three phases: the Manual-filing System, the File-based systems, and the Database and the Database Management systems (DBMS). The manual-filing system contains files of information, related to a project, product, task, client, or employee and they are usually labeled and stored in one or more cabinets. The cabinets may be located in the secure area of the building, for safety. To facilitate the process of searching and to find out what we want, more quickly, the different types of item can be put in separate folders and they remain logically related. Actually, the needs of the contemporary industrial world could not be covered or satisfied by using such kind of systems, and especially what concerns their reliability and efficiency. Thus, we historically reach to the second phase of the Database systems evolution – the File-based systems. This kind of systems had been developed in response to the needs and demands of industry for a more efficient data access [1]. The basic idea into the development of this type of systems, is that each Department in an organization (for instance) has an access to its own data (files) through application programs. (Figure 2.1):

Chapter-02

Problem Definition

2.1 Existing System

- Cannot Upload and Download the latest updates.
- No use of Web Services and Remoting.
- Risk of mismanagement and of data when the project is under development.
- Less Security.
- No proper coordination between different Applications and Users.
- Fewer Users – Friendly **Disadvantages**
 1. User friendliness is provided in the application with various controls.
 2. The system makes the overall project management much easier and flexible.
 3. Readily upload the latest updates, allows user to download the alerts by clicking the URL.
 4. There is no risk of data mismanagement at any level while the project development is under process.
 5. It provides high level of security with different level of authentication.

2.2. Proposed System

To debug the existing system, remove procedures those cause data redundancy, make navigational sequence proper. To provide information about audits on different level and also to reflect the current work status depending on organization/auditor or date. To build strong password mechanism.

Advantages:

- User friendliness I provided in the application with various controls.
- The system makes the overall project management much easier and flexible.
- Readily upload the latest updates, allows user to download the alerts by clicking the url.
- It provides high level of security with different level of authentication.

Chapter-03.

SYSTEM REQUIREMENTS

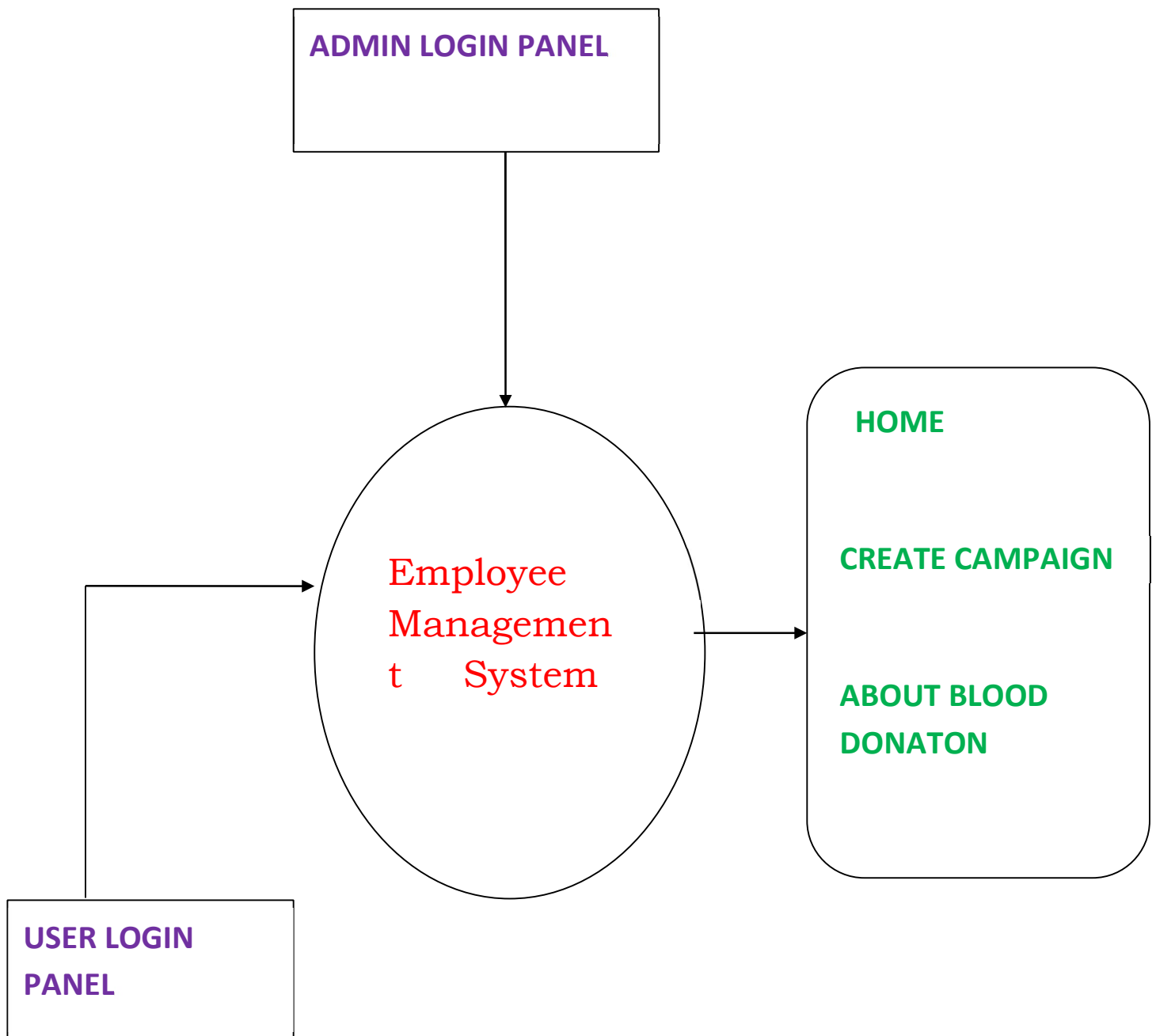
A data flow diagram is graphical tool used to describe and analyze movement of data through a system. These are the central tool and the basis from which the other components are developed. The transformation of data from input to output, through processed, may be described logically and independently of physical components associated with the system. These are known as the logical data flow diagrams.

Table No.01 Hardware and Software requirements

3.1 HARDWARE REQUIREMENTS:	3.2 SOFTWARE REQUIREMENT
PROCESSOR : Intel Pentium 4 or above	OPERATING SYSTEM : Windows 7 or higher
RAM : 512 MB Min	LANGUAGE(Server Side) : PHP
HARD DISK : 40 GB min	WEB TECHNOLOGY :HTML, CSS, JAVASCRIPT

Chapter-04.

SYSTEM DESIGN

4.1. Data Flow Diagram :**Fig. No. 02 Data flow diagram****4.2 TABLE DESCRIPTION:****Table No. 01 Admin Details :**

Name	Type	size	constraint	Description
------	------	------	------------	-------------

Id	INT	11	Primary Key	Employee Id
Email	TEXT		Null	Admin Email
Password	TEXT		No Null	Admin Password

Table No.02 Employee Details:

Name	Type	Size	constraints	Description
Id	INT	11	Primary Key	Id of the Employee
FirstName	VARCHAR	100	Null	Employee First Name
LastName	VARCHAR	100	Null	Employee Last Name
Email	TEXT		Null	Employee Email
Password	TEXT		Null	Employee Password
BirthDay	DATE		Null	Employee Birth Date
Gender	VARCHAR	10	Null	Employee Gender
Contact	VARCHAR	20	Null	Employee Contact
Address	VARCHAR	100	Null	Employee Address
Dept	VARCHAR	100	Null	Employee Department
Degree	Varchar	100	Null	Employee Degree
Pic	TEXT		Null	Employee Picture

Table No-03 Employee Leave Details:

Name	Type	Size	Constraints	Description
id	INT	11	Primary key	Employee Id

Token	INT	11	Null	Employee Token
Start	DATE		Null	Employee Leave Start Date
End	DATE		Null	Employee leave End Date
Reason	VARCHAR	100	Null	Employee Leave Reason
Status	VARCHAR	50	Null	Employee Leave Status

Table No-04 Project Details :

Name	Type	size	Constraints	Description
Pid	INT	11	Primary ley	Project Id
Eid	INT	11	Null	Employee Id
Pname	VARCHAR	100	Null	Project Name
Duedate	DATE		Null	Date Given To Submit The Project
Subdate	DATE		Null	Date On Which Project Submitted
Mark	INT		Null	Project Marks
Status	VARCHAR	50	Null	Status Of Project

Table No-05 Rank details :

Name	type	size	Constraints	Description
------	------	------	-------------	-------------

Eid	INT	11	Primary key	Employee Id
Points	INT	11	Null	Rank Of The Project

Table No-06 Salary details :

Name	Type	size	Constraints	Description
Id	Int	11	Primary key	Employee Id
Base	INT	11	Null	Basic Salary
Bonus	INT	11	Null	Employee Bonous
Total	INT	11	Null	Employee Total Salary

4.3 Schema Diagram:

Admin :

Admin_name	Admin_id	Admin_pass
-------------------	-----------------	-------------------

User :

User_name	User_id	User_pass
------------------	----------------	------------------

Blood :

Id	Fname	Lname	address	contact	Gender	Blood_group
-----------	--------------	--------------	----------------	----------------	---------------	--------------------

Campaign :

id	Camp_name	org_name	Camp_date	Camp_time	Camp_location
-----------	------------------	-----------------	------------------	------------------	----------------------

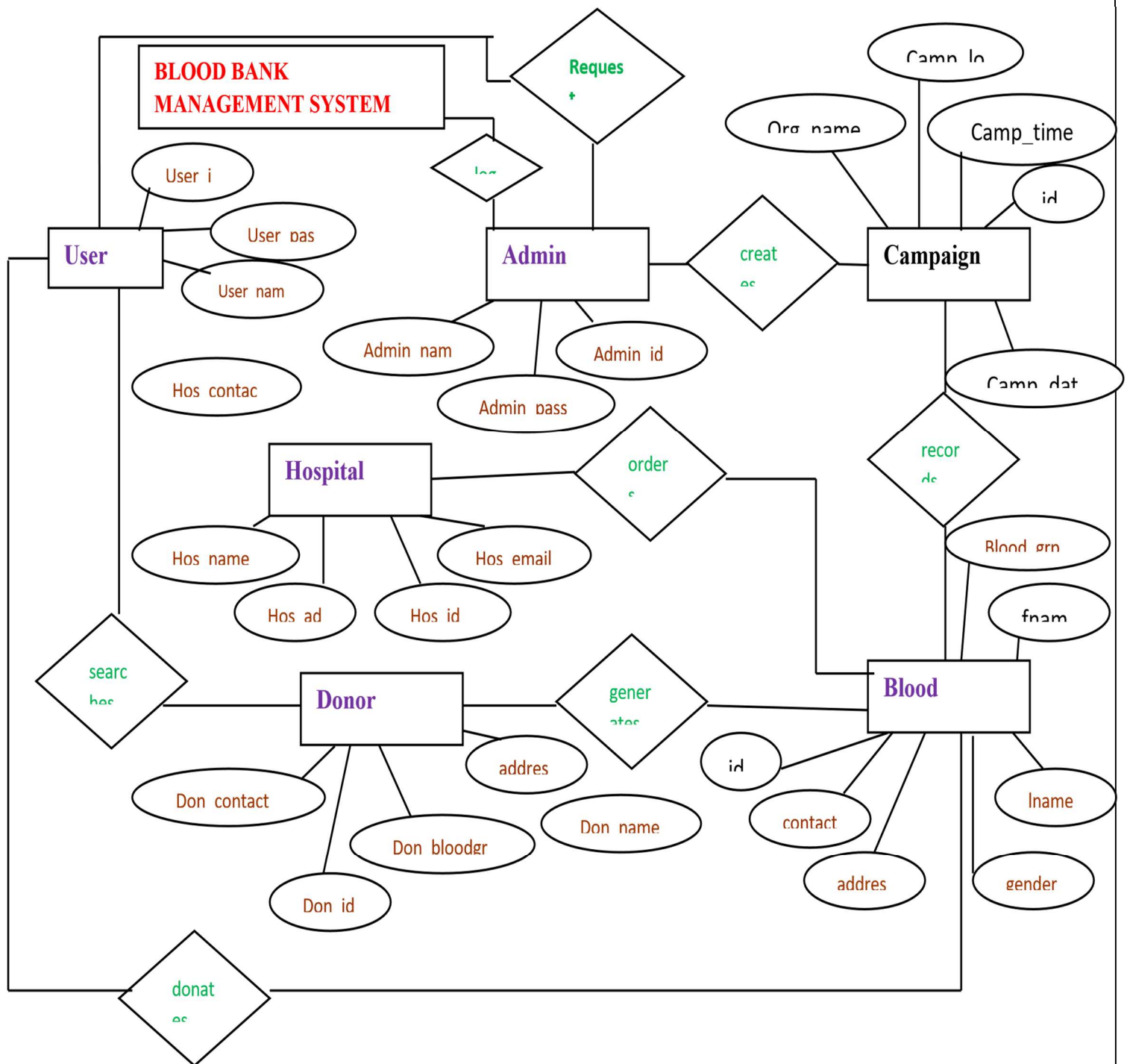
Donor :

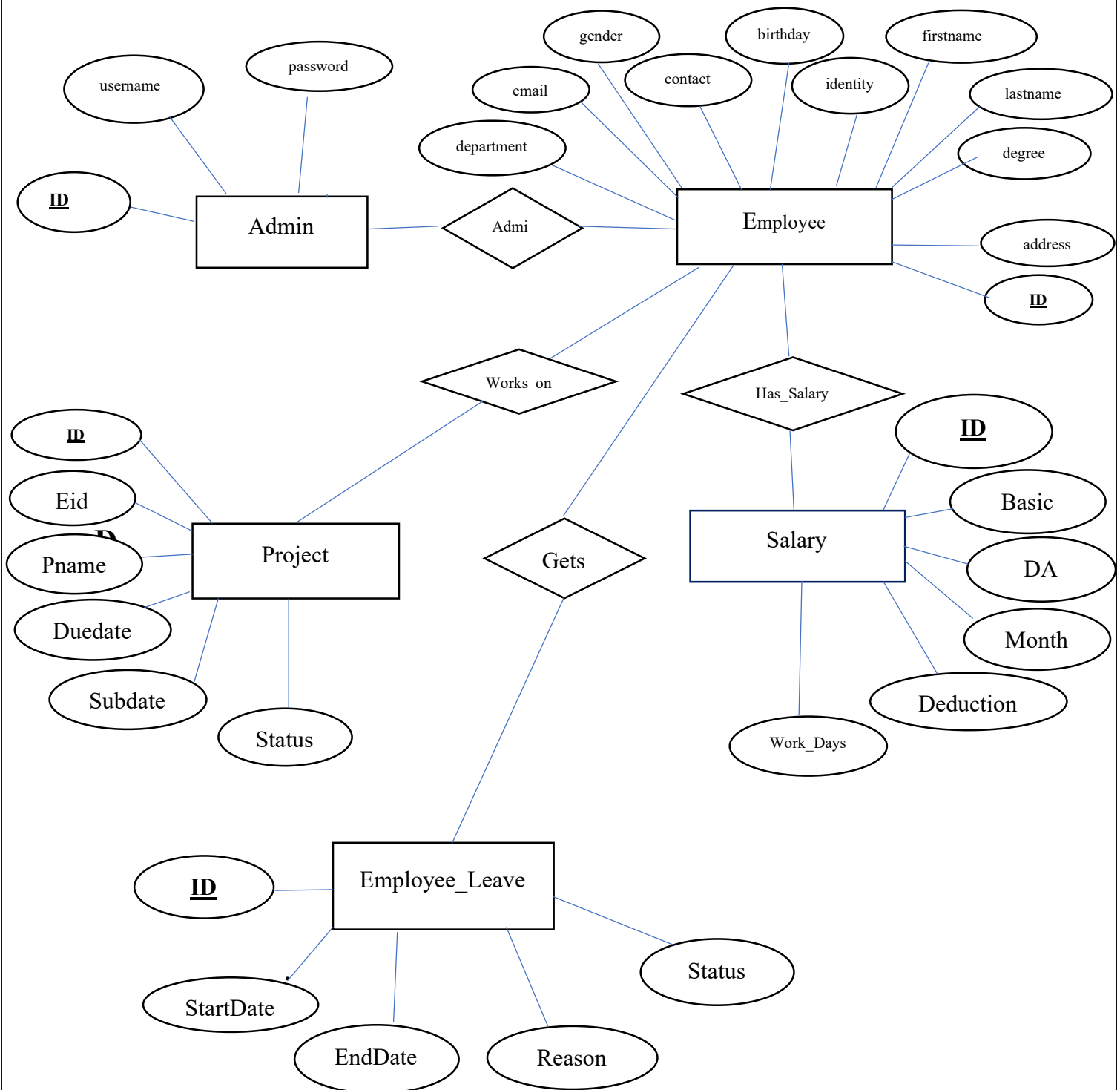
Donor_id	Donor_name	Donor_address	Donor_contact	Donor_bloodgroup
-----------------	-------------------	----------------------	----------------------	-------------------------

Hospital :

Hospital_name	Hospital_id	Hospital_contact	Hospital_address	Hospital_email
----------------------	--------------------	-------------------------	-------------------------	-----------------------

Entity Relation Diagram:



Entity Relation Diagram of – Employee Management System

Chapter-05.

DETAILS OF TECHNOLOGIES USED

5.1 APACHE WEB SERVER:

based on the NCSA HTTPd server, development of Apache began in early 1995 after work on the NCSA code stalled. Apache played a key role in the initial growth of the World Wide Web, quickly overtaking NCSA HTTPd as the dominant HTTP server, and has remained most popular since April 1996. In 2009, it Apache HTTP Server, colloquially called Apache, is free and open-source cross-platform web server software, released under the terms of Apache License 2.0. ... Originally based on the NCSA HTTP server development of Apache began in early 1995 after work on the NCSA code stalled. Apache is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation. The Apache HTTP Server is cross-platform; as of 1 June 2017 92% of Apache HTTPS Server copies run on Linux distributions. Version 2.0 improved support for non-Unix operating systems such as Windows and OS/2. Old versions of Apache were ported to run on OpenVMS and NetWare. Originally became the first web server software to serve more than 100 million websites. As of July 2016 was estimated to serve 46% of all active websites and 43% of the top million websites. Instead of implementing a single architecture, Apache provides a variety of MultiProcessing Modules (MPMs), which allow Apache to run in a process-based, hybrid (process and thread) or event-hybrid mode, to better match the demands of each particular infrastructure. This implies that the choice of correct MPM and the correct configuration is important. Where compromises in performance need to be made, the design of Apache is to reduce latency and increase throughput, relative to simply handling more requests, thus ensuring consistent and reliable processing of requests within reasonable time-frames. For delivery of static pages, Apache 2.2 series was considered significantly slower than ginx and varnish.

5.2 MySQL:

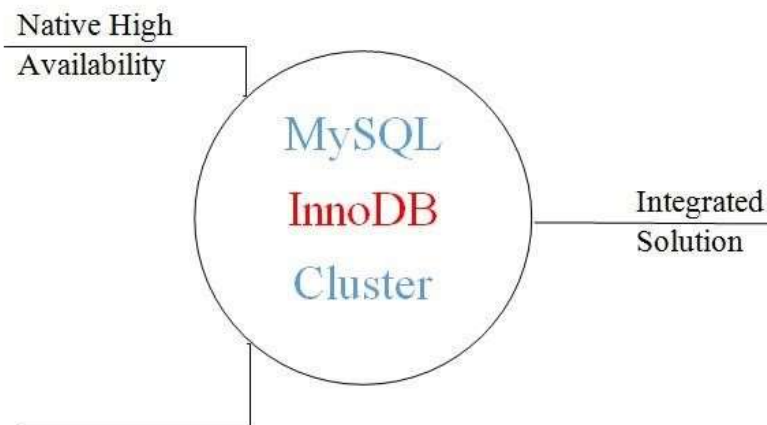


Fig. No. 03

5.3 PHP:

Generally runs on a web server. Any PHP code in a requested file is executed by the PHP runtime, usually to create PHP is a general-purpose scripting language that is especially suited to server-side web development, in which case PHP dynamic web page content or dynamic images used on websites or elsewhere. PHP originally stood for Personal Home Page, but it now stands for the recursive acronym PHP: Hypertext Preprocessor. PHP code may be embedded into HTML or HTML5 markup, or it can be used in combination with various web template systems, web content management systems and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server software combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and can be used to implement standalone graphical applications. The standard PHP interpreter, powered by the Zend Engine, is free software released

under the PHP License. PHP has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge. The PHP interpreter only executes PHP code within its delimiters. Anything outside its delimiters is not processed by PHP, although non-PHP text is still subject to control structures described in PHP code. The most common delimiters are `<?php` to open and `?>` to close PHP sections. The shortened form `<?` also exists. This short delimiter makes script files less portable, since support for them can be disabled in the local PHP configuration and it is therefore discouraged. The first form of delimiters, `<?php` and `?>`, in XHTML and other XML documents, creates correctly formed XML processing instructions. This means that the resulting mixture of PHP code and other markup in the server-side file is itself wellformed XML. Variables are prefixed with a dollar symbol, and a type does not need to be specified in advance. PHP 5 introduced type hinting that allows functions to force their parameters to be objects of a specific class, arrays, interfaces or callback functions. However, before PHP 7.0, type hints could not be used with scalar types such as integer or string.^[53] Unlike function and class names, variable names are case sensitive. Both double-quoted ("") and heredoc strings provide the ability to interpolate a variable's value into the string.^[96] PHP treats newlines as whitespace in the manner of a free-form language, and statements are terminated by a semicolon. PHP has three types of comment syntax: `/* */` marks block and inline comments; `//` as well as `#` are used for one-line comments. The `echo` statement is one of several facilities PHP provides to output text, e.g., to a web browser. In terms of keywords and language syntax, PHP is similar to the C style syntax. `if` conditions, `for` and `while` loops, and function returns are similar in syntax to languages such as C, C++, C#, Java and Perl.

The following is an example of PHP for loop:

5.5 HTML:

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render them into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and

other objects, such as forms, may be embedded into the rendered page. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as `` and `<input>` introduce content into the page directly. Others such as `<p> ... </p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page. HTML can embed programs written in a scripting language such as JavaScript which affect the behaviour and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML. The following is an example of the classic "Hello, World!" program, a common test employed for comparing programming languages, scripting languages and markup languages.

5.6 CASCADING STYLE SHEET:

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document, including plain XML, SVG and XUL, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications. CSS is designed primarily to enable the separation of presentation and content, including aspects such as the layout, colours, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content. Separation of formatting and content makes it possible to present the same markup page in different styles for different rendering methods, such as onscreen, in print, by voice, and on Braille-based tactile devices. It can also display the web page differently depending on the screen size or viewing device. Readers can also specify a different style sheet, such as a CSS file stored on their own computer, to override the one the author specified. Changes to the graphic design of a document (or hundreds of documents) can be applied quickly and easily, by editing a few lines in the CSS

file they use, rather than by changing markup in the documents. The CSS specification describes a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called cascade, priorities are calculated and assigned to rules, so that the results are predictable.

The following example shows the style element that gives red colour to fonts:

5.7 JAVASCRIPT:

JavaScript often abbreviated as JS, is a high-level, dynamic, weakly typed, prototype based, multi-paradigm, and interpreted programming language. Alongside HTML and CSS, JavaScript is one of the three core technologies of World Wide Web content production. It is used to make webpages interactive and provide online programs, including video games. The majority of websites employ it, and all modern web browsers support it without the need for plug-ins by means of a built-in JavaScript engine. Each of the many JavaScript engines represent a different implementation of JavaScript, all based on the ECMAScript specification, with some engines not supporting the spec fully, and with many engines supporting additional features beyond ECMA. As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative programming styles. It has an API for working with text, arrays, dates, regular expressions, and basic manipulation of the DOM, but the language itself does not include any I/O, such as networking, storage, or graphics facilities, relying for these upon the host environment in which it is embedded. Initially only implemented client side in web browsers, JavaScript engines are now embedded in many other types of host software, including server-side in web servers and databases, and in non-web programs such as word processors and PDF software, and in runtime environments that make JavaScript available for writing mobile and desktop applications, including desktop widgets. Although there are strong outward similarities between JavaScript and Java, including language name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design; JavaScript was influenced by programming languages such as Self and Scheme.

SNAPSHOTS

Fig1. Home page on web application**Fig2. Employee login panel****Fig3. Admin login panel**

Employee Leaderboard

Seq.	Emp. ID	Name	Points
1	1	Pranav Savekar	0

Due Projects

Project Name	Due Date
--------------	----------

Salary Status

Working Days	Base Salary	DA	Deductions	Total Salary
28	1000	4000	1500	30500

Leave Satus

Start Date	End Date	Total Days	Reason	Status
2023-01-21	2023-01-31	10	sick leave	Approved

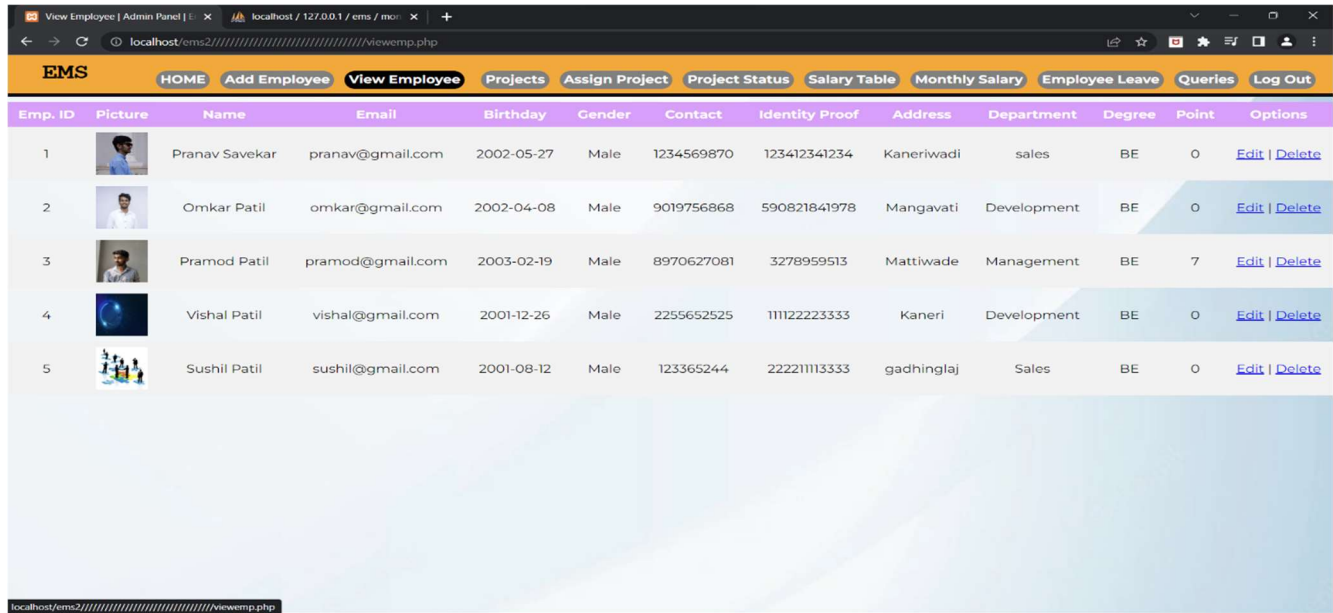
Fig4. Employee home page

Employee Leaderboard

Seq.	Emp. ID	Name	Points
1	3	Pramod Patil	7
2	1	Pranav Savekar	0
3	5	Sushil Patil	0
4	4	Vishal Patil	0
5	2	Omkar Patil	0

[Reset Points](#)

Fig5. Admin Home Page








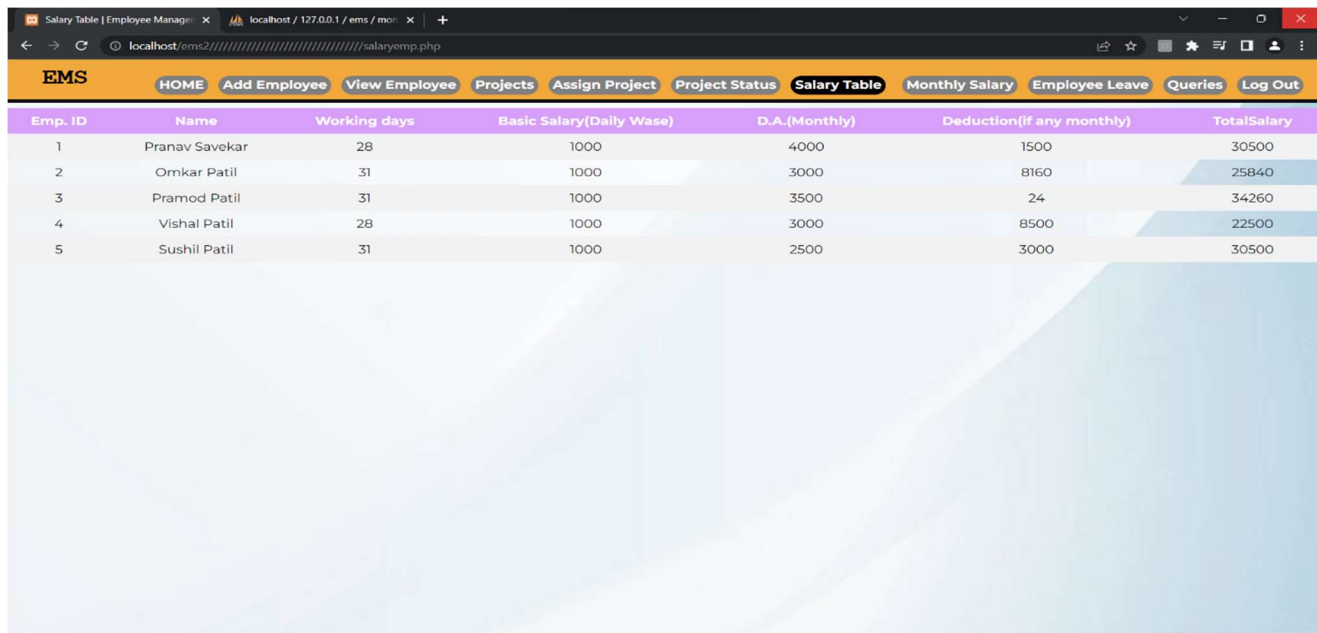
Emp. ID	Picture	Name	Email	Birthday	Gender	Contact	Identity Proof	Address	Department	Degree	Point	Options
1		Pranav Savekar	pranav@gmail.com	2002-05-27	Male	1234569870	123412341234	Kaneriwadi	sales	BE	0	Edit Delete
2		Omkar Patil	omkar@gmail.com	2002-04-08	Male	9019756868	590821841978	Mangavati	Development	BE	0	Edit Delete
3		Pramod Patil	pramod@gmail.com	2003-02-19	Male	8970627081	3278959513	Mattiwade	Management	BE	7	Edit Delete
4		Vishal Patil	vishal@gmail.com	2001-12-26	Male	2255652525	111122223333	Kaneri	Development	BE	0	Edit Delete
5		Sushil Patil	sushil@gmail.com	2001-08-12	Male	123365244	222211113333	gadhinglaj	Sales	BE	0	Edit Delete

Fig.6 Employee View Table



Emp. ID	Name	Working days	Basic Salary(Daily Wase)	D.A.(Monthly)	Deduction(if any monthly)	TotalSalary
1	Pranav Savekar	28	1000	4000	1500	30500
2	Omkar Patil	31	1000	3000	8160	25840
3	Pramod Patil	31	1000	3500	24	34260
4	Vishal Patil	28	1000	3000	8500	22500
5	Sushil Patil	31	1000	2500	3000	30500

Fig.7 Employee Salary Table

CONCLUSION

Technology is introducing new innovations day by day, thus reducing the time required to do things. The proposed system can be used to reduce the time required to deliver required blood to the needy in cases of emergency. The Android application can be used by the people in the Industry to manage their employee details. The web application provides a way of communication and synchronization between the hospitals and the Employee managements. It also provides them with the facility of communicating with the nearby donors in emergency. The database is a vital aspect of the system. The database of the hospitals and the Employee managements must be checked for consistency on regular basis for smooth working of the system. The proposed system uses Google Maps which provides the user with an efficient way of locating the nearby donors/Employee managements. The Android application is developed using Android Studio which is an open source software, while the web application for the Employee management system is also developed using open source tools, hence the system developed is quite feasible.

Employee Management System



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- 7 <http://www.google.com>